Overview of the BOEM Renewable Energy Program and Current Activities

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Office of Renewable Energy Program Science Coordinator

NOAA Hydrographic Services Review Panel, Federal Advisory Committee
Virtual Public Meeting, September 1, 2021
OCS Lands Act: "... vital national resource ... expeditious and orderly development ... environmental safeguards"

Energy Policy Act of 2005: "... energy from sources other than oil and gas ..."
• President Biden issued Executive Order 14008 that called for the Interior Department to identify steps to increase responsible renewable energy development on public lands and waters

• First-ever national offshore wind goal to deploy 30 gigawatts of offshore wind by 2030, which would create nearly 80,000 jobs.
OCS Renewable Energy Authorization Process

Planning & Analysis

Leasing

Site Assessment

Construction & Operations

2 YEARS

1-2 YEARS

5 YEARS

2 YEARS (+25)
### Intergovernmental Coordination

#### Planning and Leasing
- Intergovernmental Task Forces
- State and regional, on both coasts
- Federal, state, local and tribal
- Information sharing

#### Plan-Specific
- Cooperating under National Environmental Policy Act (NEPA)
- Mandated consultations
- Informal coordination
- FAST-41

#### Programmatic
- Federal Offshore Wind Permitting Subgroup
- Joint issue-focused workshops
- Process agreements
- State-led working groups
- Guideline development
- Joint studies & research

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**Government-to-Government Consultation Examples**

- **Extensive tribal consultation under National Historic Preservation Act (NHPA) compliance:**
  In all stages of NHPA compliance and throughout NEPA process
  Tribes invited to NEPA scoping and notified about stages of EIS
BOEM regularly coordinates, communicates, and collaborates with intergovernmental entities including federal agencies, states, tribes, Fishery Management Councils, including:

- **Regional Ocean Partnerships** (i.e., NROC = Northeast Regional Ocean Council; and MACO = Mid-Atlantic Committee on the Ocean)
- **Offshore Wind Permitting Subgroup** (monthly federal agency webinars)
- **Intergovernmental state and regional task forces**
  - Affected state, local and tribal governments and federal agencies
  - Does not replace consultation under existing federal laws and regulations
  - Public involvement
  - *Regional collaboration is key*
Atlantic OCS Renewable Energy: State Leadership

<table>
<thead>
<tr>
<th>State</th>
<th>Renewable Goals *</th>
<th>Offshore Wind Goals (MW)</th>
<th>Offshore Wind: “Offtake” Awarded (MW) + Scheduled (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>35% by 2030</td>
<td>5,600</td>
<td>1,600 + 1,600</td>
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<tr>
<td>Rhode Island</td>
<td>100% by 2030</td>
<td>unspecified</td>
<td>430 + 600</td>
</tr>
<tr>
<td>Connecticut</td>
<td>48% by 2030</td>
<td>2,300</td>
<td>1,108 + 0</td>
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<tr>
<td>New York</td>
<td>70% by 2030</td>
<td>9,000</td>
<td>4,316 + 0</td>
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<tr>
<td>New Jersey</td>
<td>50% by 2030</td>
<td>7,500</td>
<td>1,100 + 6,400</td>
</tr>
<tr>
<td>Maryland</td>
<td>50% by 2030</td>
<td>1,568</td>
<td>368 + 1,200</td>
</tr>
<tr>
<td>Virginia</td>
<td>30% by 2030</td>
<td>5,212</td>
<td>2,652** + **</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>--</td>
<td><strong>31,180 MW</strong></td>
<td><strong>21,374 MW</strong></td>
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</tbody>
</table>

* Not specifically offshore wind  |  **Dominion Energy is constructing a 2,640 MW project, but as a state-owned utility there is no “award” process. Additional wind may be procured from the Avangrid lease.**
Renewable Energy Program by the Numbers

- Competitive Lease Sales Completed: 8
- Active Commercial Offshore Leases: 17
- Site Assessment Plans (SAPs) Approved: 11
- General Activities & Research Plans Approved: 2
- Construction and Operations Plans (COPs):
  - Submitted: 14
  - Anticipated within next 12 months: 2
- Regulatory Guidance: 11
- Leasing Under Consideration: 7
- Steel in the Water: 2020
Issues & Opportunities

- Employment
- Industrial Synergies
- Turbine Size
- Transmission
- Radar
- Wildlife
- Visual Effects
- Navigation
- Commercial and Recreational Fishing
Technology & the Growth of the Wind Turbine

- **1991**: 500 KW, Vestas V39, 197 ft (60 m)
- **2000**: 2 MW, Vestas V80, 394 ft (120 m)
- **2007**: 3.6 MW, Siemens SWT 120, 487 ft (148.5 m)
- **2013**: 6 MW, Alstom Haliade 150, 569 ft (173.5 m)
- **2015**: 8 MW, Vestas V164, 607 ft (185 m)
- **2021**: 12 MW, GE Haliade-X, 853 ft (260 m)
- Theoretical: ARPA-E (DOE-sponsored)

Comparative Heights:
- Statue of Liberty: 305 ft (93 m)
- Golden Gate Bridge: 746 ft (227 m)
- Washington Monument: 555 ft (169 m)
- One World Trade Center: 1,792 feet (546 m)

Wind Turbine Heights:
- 50 KW: 1,470 ft (448 m)
## Atlantic OCS Renewable Energy: “Projects in the Pipeline”

<table>
<thead>
<tr>
<th>Year</th>
<th>Project</th>
<th>Company</th>
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<tbody>
<tr>
<td>2020</td>
<td>Coastal Virginia Offshore Wind Pilot</td>
<td>Dominion Energy, Orsted</td>
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<tr>
<td></td>
<td>South Fork</td>
<td>Deepwater Wind</td>
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<tr>
<td></td>
<td>Vineyard Wind I</td>
<td>Vineyard Wind</td>
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<td></td>
<td>Revolution Wind</td>
<td>Deepwater Wind</td>
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<td>Skipjack Windfarm</td>
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<td>Empire Wind</td>
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<td>Atlantic Shores</td>
<td>Atlantic Shores Offshore Wind</td>
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<td></td>
<td>Kitty Hawk</td>
<td>Avangrid</td>
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<td>2030</td>
<td>OCS-A 0522</td>
<td>Vineyard Wind</td>
</tr>
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STEEL IN THE WATER! Coastal Virginia Offshore Wind Project (CVOW)

- Lessee: Virginia DMME
- Operator: Dominion Energy
- Engineering Contractor: Orsted
  - Construction (May/June 2020)
  - Two 6-MW turbines
  - Staging: Halifax, Hampton Roads, Camp Pendleton
  - Commissioning: 2020
The Department of the Interior approved the Vineyard Wind project in May 2021 — the first large-scale, offshore wind project in the United States.

Prior to construction, Vineyard Wind must submit a facility design report and a fabrication and installation report. These engineering and technical reports provide specific details for how the facility will be fabricated and installed in accordance with the approved Construction and Operations Plan.

- Vineyard Wind
- South Fork
- New York Bight
- Gulf of Maine
- Virginia
- Carolinas
- California
- Gulf of Mexico
- Hawaii
- Oregon